

Remarks/Arguments:

Claims 1-28, 31, and 33-43 and 45-47 were pending in the application at the time of the Office Action.

Claim Rejections - 35 USC § 112

Claims 37-40 and 47 are rejected under 35 U.S.C. § 112, second paragraph as indefinite. The Examiner has pointed out several incorrect dependencies in claims 37-40, and these are corrected herewith.

The Examiner finds claim 47 indefinite due to use of the term "optionally" in a claim reciting the otherwise closed structure "consisting of". Applicant respectfully notes that such use is well established as not indefinite.

Although "consisting of" and "consisting essentially of" are closed and virtually closed transitional phrases, optional elements may be recited following these transitional phrases if there is no ambiguity as to the scope of the claim. A claim that recited a "composition consisting of A, B, and C optionally containing D" was upheld under 35 USC § 112, 2nd paragraph because there was no difficulty in determining its scope. *Ex parte Wu*, 10 U.S.P.Q.2d 2031 (Bd. Pat. App. & Inter. 1989).¹

In view of the above settled case law, Applicants respectfully request withdrawal of the rejection.

Claim Rejections - 35 USC § 103

Claims 1-10, 12, 22-24, 27, 28, 31, 33-35, 41, 43, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2 355 956 ("Okhai") in view of US 4,971,847 ("Freed") and US 6,441,340 ("Varriano").

Okhai discloses the basic principle of laminating a gas-permeable layer to a perforated sealing layer for the purpose of providing sealable packaging having both gas permeability and a physical barrier to microbes. The other main objective is to provide a film having good moisture vapour transmission².

Okhai discloses that gas-permeable layers may be selected from oriented polystyrene (OPS) and oriented polypropylene (OPP)³; and perforated sealing layers may be

¹ See MPEP 2173.05(h) III. re *Ex parte Wu*

² Okhai page 2, lines 1-4

³ Okhai page 2, lines 27 to 28; page 4, lines 6 to 7; and page 5, lines 13 to 24

selected from polyester and polyethylene⁴. Thus, although Okhai mentions the suitability of polyester for making a perforated sealing layer, he does NOT mention it as suitable for making the barrier layer as recited in Applicants' independent claims.

The Examiner notes that Okhai teaches a film attached to a container wherein the film comprises at least one perforated heatseal layer and an unperforated barrier layer, and further that Okhai's perforated sealing film has a WVTR of greater than 60 g/m²/day⁵. The Examiner admits that Okhai is silent as to the suitability of polyesters and polyamides for use in the barrier layer⁶. Indeed, Okhai merely states that "The gas-permeable barrier layer may be formed of any suitable natural polymer or synthetic polymer, such as any suitable thermosetting or thermoplastic polymer."⁷ Applicants note that this description provides essentially no guidance at all, as it includes every polymer known to man, limited only by the proviso that the polymer be "suitable", a term that Okhai does not define. The only specific polymers indicated as suitable for Okhai's purposes are polyolefins: OPP and OPS, which Okhai says provide "particularly good results"⁸. Condensation polymers (such as polyesters and polyamides) are not mentioned as suitable.

Applicants further note that, with one exception, Okhai also fails to teach a suitable thickness for the barrier layer. That one exception is OPP, where Okhai provides a single (presumably suitable) example of 15 µm thickness designed to achieve a (presumably suitable) WVTR of 8-10 g/m²/day.⁹ There is no disclosure at all of the thickness of the sealing layer, and no generic thickness ranges are provided for either layer. Okhai comments that more specific permeability requirements "could be met by controlling the amount of perforations in the sealing layer"¹⁰, but he gives no information about any such specific requirements or any guidelines as to how to meet them.

With these facts as background, the Examiner concludes that it would have been obvious to modify Okhai's invention by using a thinner barrier layer (≤12 µm, vs. 15 µm),

⁴ Okhai page 4, lines 6-10; and page 5, lines 13 to 27

⁵ Office Action section 8. Applicants note that wording in the Office Action is different from this and refers to "at least one perforated layer and an unperforated heat seal layer", but Applicants understand this to be a clerical error because Okhai perforates only the sealing layer, never the barrier layer. Applicants request clarification if their understanding is mistaken.

⁶ Office Action section 14

⁷ Okhai page 4, lines 4-6

⁸ Okhai page 2, line 28

⁹ Okhai page 6, lines 4-6

¹⁰ Okhai page 6, lines 13-15

and polyester or polyamide vs. Okhai's OPP, to achieve a WVTR of at least 60 vs. only 8-10 g/m²/day for Okhai. It is difficult to see why it would have been obvious to do this.

Freed mentions OPP and polyester in a long list of "more permeable" polymers¹¹ that also includes polystyrene and other "*polyolefins such as polypropylene and polyethylene*". Also in the list is PET, and the Examiner concludes from this that PET and polypropylene are therefore known equivalents for purposes of Okhai's invention¹². Applicants respectfully disagree. While OPP and PET (and all the other polymers in Freed's long list) may or may not be equivalent for Freed's purposes, where they need only be more permeable than the permeability-controlling, "less permeable" gas-barrier layers¹³, they are NOT equivalent in the main aspect relevant to Okhai's invention: setting a desired level of permeability. The lack of permeability equivalence of OPP and PET has already been established by Sankey's Declaration dated June 16, 2009, demonstrating significant differences in WVTR for these materials (6 vs. 27.5 g/m²/day). Such differences may not be relevant to Freed, but they are of central importance to Okhai. PET and OPP have very different WVTR values and thus are not equivalent for Okhai's purposes, and thus replacing one with the other would not have been obvious to the skilled person at the time the invention was made. Therefore, Applicants respectfully request that the rejection be withdrawn.

For purposes maintaining a complete and accurate record, Applicants respectfully submit that the Office Action misstates the holding of *In re Boesch*, saying that "It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art." Rather, *In re Boesch* held that "...discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." (emphasis added) Thus, it may be obvious to optimize a variable only if that variable was known in the art to be result-effective with respect to a known desired result, and only if optimization for that purpose leads to the claimed value of that variable. However, *prima facie* obviousness is not supported if the inventor has found merely "an" optimum value of a variable, i.e., the optimum value of that variable for any objective without limit. Rather, a finding of obviousness requires that the value be optimal with respect to a previously recognized objective, and that this optimal value be within the claimed range. The Office Action proposes no objective, known at the time of the present invention, the pursuit of which would by optimization have led to the compositional, thickness and WVTR values

¹¹ Freed column 4, line 48 to column 5, line 4

¹² Office Action section 16

recited in the claims. For this additional reason, *prima facie* obviousness has not been established and Applicants respectfully request that the rejection be withdrawn.

On another note, and as noted above, Applicants have previously presented data in Stephen William Sankey's Declaration of June 16, 2009 demonstrating that polyolefins such as polypropylene and polyethylene are clearly not "equivalent" to PET as gas permeable layers; PET displays significantly higher water vapour permeability compared with LLDPE, HDPE and OPP. For the Examiner's convenience, and to provide a more complete record, Applicants provide herewith a further Declaration by Stephen William Sankey dated May 3, 2011, providing an expanded version of that table including WVTR data for nylon films. The following table is copied from that Declaration, and indicates that the listed polyamides provide even higher WVTR than does PET. Polyamides and polyesters are the only polymers recited for use in the presently claimed unperforated barrier layers.

Polymer Identity (25µm film)	WVTR (g/m ² /day)
PET	27.5
L-LDPE	17.5
HDPE	5
OPP	6
Nylon 6,6	150
Nylon 11	60

Dr. Sankey avers that these data demonstrate that polyester and polyamide films exhibit superior water vapour transmission and breathability compared with polyolefin films. The use of a polyester or polyamide layer as the gas-permeable unperforated barrier layer in the present invention therefore provides a film with superior breathability, and the use of polyester or polyamide to provide these advantages is not taught or suggested by either Okhai or Freed.

Claims 13-15, 20, 21, 36 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okhai in view of Freed, Varriano and WO 01/92000 ("Lin").

Claims 11 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okhai in view of Freed, Varriano and US 4,918,156 ("Rogers").

¹³ Freed column 4, lines 40-47

Claims 16, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okhai in view of Freed, Varriano, Lin and US 6,787,630 ("Dominguez").

Claims 17, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okhai in view of Freed, Varriano, Lin and US 4,450,250 ("McConnell").

Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okhai in view of Freed, Varriano, Lin and US 4,172,824 ("Harrington").

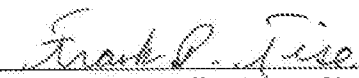
Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okhai in view of Freed, Varriano and US 6,143,818 ("Wang").

All of the above rejections rely on Okhai in view of Freed and Varriano as described above, and Applicants submit that all of these rejections should be withdrawn for the reasons already discussed.

Conclusion

Applicants submit that the rejections have been overcome, and respectfully request entry of the amendments, reconsideration and early notice of allowance. Applicants invite the Examiner to contact their undersigned representative, Frank Tise, if it appears that this may expedite examination.

Respectfully submitted,



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RAD/FPT/jyr

Attachment: Declaration by Stephen William Sankey dated May 3, 2011

Dated: May 9, 2011

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